

# OCI Exports metrics to Prometheus Solution

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Public

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## 产品版本

OCI 云平台

prometheus-2.43.0.windows-amd64

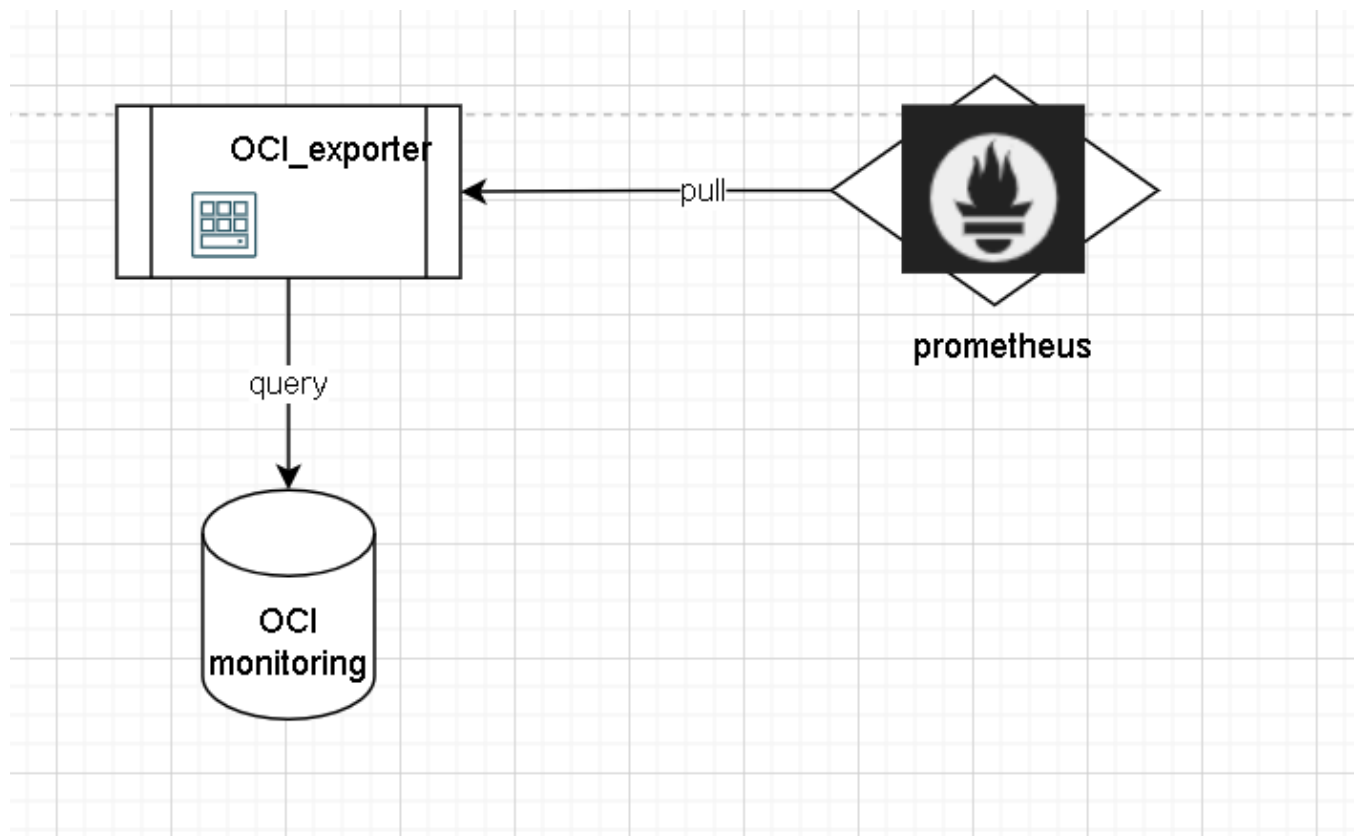
Golang 1.20, go.mod as below

```
github.com/oracle/oci-go-sdk/v65 v65.36.0  
github.com/prometheus/client_golang v1.15.0
```

## Overview

Prometheus is a very popular monitoring solution in industry, so we need to have the requirement that exports metrics to Prometheus.

About the usage we only need to Get the binary and make config.yaml file Prepared and then run the application In a virtual machine. Let the Prometheus discover These instances of exporters. then the metrics will be exported to Prometheus



The binary of windows and linux can be downloaded from github

[https://github.com/munger1985/OCI-Auto-Scripts/tree/main/oci\\_exporter](https://github.com/munger1985/OCI-Auto-Scripts/tree/main/oci_exporter)

For usage, we can simply add metrics in config.yaml

```
---
metrics:
- name: oci_all_lb_bytesent
  help: "The number of bytes sent from all load balancer."
  type: many
  interval: 3
  namespace: oci_lbaas
```

```

mql: BytesSent[1m].mean()
compartmentId: ocid1.compartment.oc1..aaaaaaaahr7aicqtodxmcf6pbqn3hvsngpftozyxqw36gj4kh3w3kkj4q
label1: dev
label2: high
- name: oci_vm1_mem
  help: "vm1 mem usage."
  type: single
  interval: 1
  namespace: oci_computeagent
mql: MemoryUtilization[1m]{resourceId = "ocid1.instance.oc1.ap-singapore-
1.anzwsljrak7gbriccijo42npujwjrub3j6e6fkoe7ijtpe4krhndgr3f2da"}.mean()
compartmentId: ocid1.compartment.oc1..aaaaaaaahr7aicqtodxmcf6pbqn3hvsngpftozyxqw36gj4kh3w3kkj4q
label1: dev
label2: high
# - name: oci_vm_mem
#   help: "oci mem usgae ."
#   type: single
#   interval: 1
#   namespace: oci_computeagent
# mql: DiskIopsWritten[1m]{resourceId = "ocid1.instance.oc1.ap-singapore-
1.anzwsljrak7gbriccijo42npujwjrub3j6e6fkoe7ijtpe4krhndgr3f2da"}.rate()
# label:
#   a: b

```

You can comment some metric whenever you want

## Field explanation

Name: name of the metric

Help: description

Type: if this metric will get you many datapoints, then it is many, otherwise single, many is used to query many resource in one go

Interval: export query data in this interval

Namespace: for query data

compartmentId: compartment of the target resource

Label1: value of custom label, can be used for Prometheus filter

Label2: value of custom label, can be used for Prometheus filter

## How to get namespace and MQL

[Learn more about load balancers and security lists.](#)

## Logs

Error logs: Not enabled ⓘ

Access logs: Not enabled ⓘ

[Learn more about load balancer logging.](#)

Resources

- Metrics**
- Smart check
- Logs (0)
- Backend sets (4)
- Routing policies (0)
- Rule sets (0)

## 11 metrics

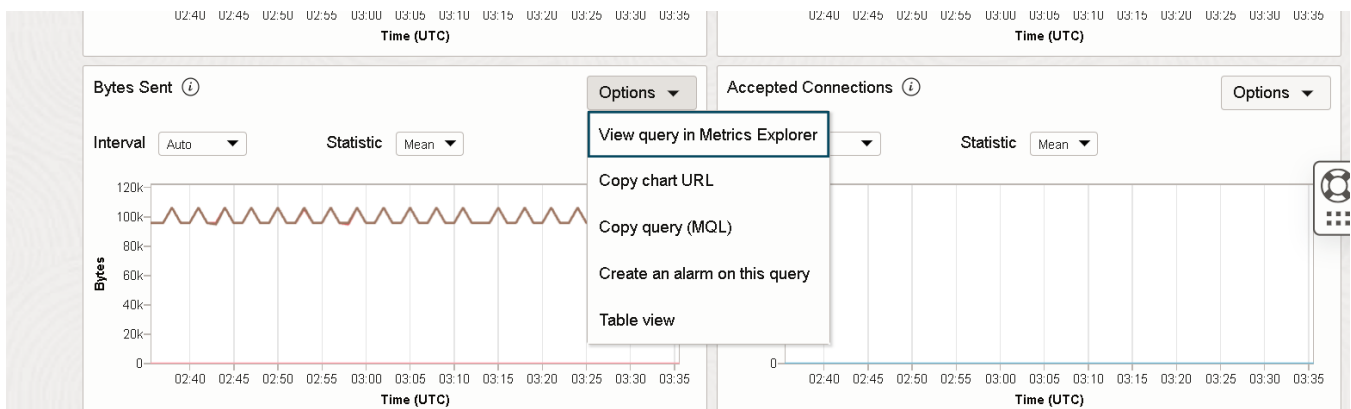
Start time: May 5, 2023 02:35:34 UTC | End time: May 5, 2023 03:35:34 UTC | Quick selects: Last hour | Reset

Number of incoming client requests to the load balancer.

Inbound Requests ⓘ | Options | Active Connections ⓘ | Options

Interval: Auto | Statistic: Mean

Select your target metric open explorer



Copy MQL

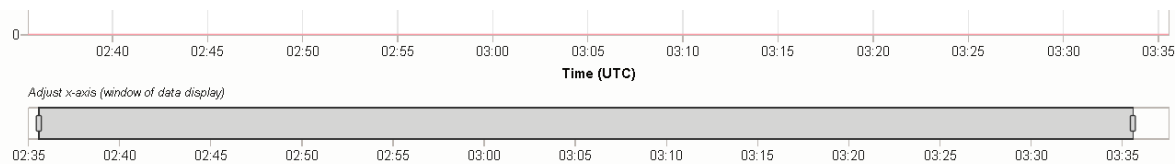
Edit queries

▼ Query 1 (10 metric streams)

```
BytesSent[1m][resourceId="ocidl-loadbalancer-oc1-ap-singapore-1-aaaaaa2zocspj447ytkybpdgx66tp/76skccoz3up637d6oynya"] mean()
```

- 75253141, TCP-15017, ocidl-loadbalancer-oc1-ap-singapore-1-aaa-6oynya, ap-singapore-1-ad-1, 36f8f4e8-2037-4b67-885b-df5cc9c7be60, ap-singapore-1, Backendset ocidl-loadbalancer-oc1-ap-singapore-1-aaa-6oynya Copy
- 75253141, TCP-15443, ocidl-loadbalancer-oc1-ap-singapore-1-aaa-6oynya, ap-singapore-1-ad-1, 36f8f4e8-2037-4b67-885b-df5cc9c7be60, ap-singapore-1, Backendset ocidl-loadbalancer-oc1-ap-singapore-1-aaa-6oynya Copy
- 75253141, TCP-15012, ocidl-loadbalancer-oc1-ap-singapore-1-aaa-6oynya, ap-singapore-1-ad-1, 36f8f4e8-2037-4b67-885b-df5cc9c7be60, ap-singapore-1, Backendset ocidl-loadbalancer-oc1-ap-singapore-1-aaa-6oynya Copy
- 75253141, ocidl-loadbalancer-oc1-ap-singapore-1-aaa-6oynya, ap-singapore-1-ad-1, 36f8f4e8-2037-4b67-885b-df5cc9c7be60, ap-singapore-1, Loadbalancer ocidl-loadbalancer-oc1-ap-singapore-1-aaa-6oynya Copy
- 647414eb, TCP-15012, ocidl-loadbalancer-oc1-ap-singapore-1-aaa-6oynya, ap-singapore-1-ad-1, 36f8f4e8-2037-4b67-885b-df5cc9c7be60, ap-singapore-1, Backendset ocidl-loadbalancer-oc1-ap-singapore-1-aaa-6oynya Copy
- 647414eb, TCP-15021, ocidl-loadbalancer-oc1-ap-singapore-1-aaa-6oynya, ap-singapore-1-ad-1, 36f8f4e8-2037-4b67-885b-df5cc9c7be60, ap-singapore-1, Backendset ocidl-loadbalancer-oc1-ap-singapore-1-aaa-6oynya Copy
- 647414eb, TCP-15017, ocidl-loadbalancer-oc1-ap-singapore-1-aaa-6oynya, ap-singapore-1-ad-1, 36f8f4e8-2037-4b67-885b-df5cc9c7be60, ap-singapore-1, Backendset ocidl-loadbalancer-oc1-ap-singapore-1-aaa-6oynya Copy
- 647414eb, TCP-15443, ocidl-loadbalancer-oc1-ap-singapore-1-aaa-6oynya, ap-singapore-1-ad-1, 36f8f4e8-2037-4b67-885b-df5cc9c7be60, ap-singapore-1, Backendset ocidl-loadbalancer-oc1-ap-singapore-1-aaa-6oynya Copy
- 75253141, TCP-15021, ocidl-loadbalancer-oc1-ap-singapore-1-aaa-6oynya, ap-singapore-1-ad-1, 36f8f4e8-2037-4b67-885b-df5cc9c7be60, ap-singapore-1, Backendset ocidl-loadbalancer-oc1-ap-singapore-1-aaa-6oynya Copy
- 647414eb, ocidl-loadbalancer-oc1-ap-singapore-1-aaa-6oynya, ap-singapore-1-ad-1, 36f8f4e8-2037-4b67-885b-df5cc9c7be60, ap-singapore-1, Loadbalancer ocidl-loadbalancer-oc1-ap-singapore-1-aaa-6oynya Copy

Close | Copy query (MQL)



Edit queries

#### ▼ Query 1 (10 metric streams)

BytesSent[1m]{resourceId="ocid1.loadbalancer.oc1.ap-singapore-1.aaaaaaa2joccsj447yrlkynbp4gpb6tup76skccoz3up637d6oynya"} mean()

75253141, TCP-15017, ocid1.loadbalancer.oc1.ap-singapore-1.aaaaaaa2joccsj447yrlkynbp4gpb6tup76skccoz3up637d6oynya, ap-singapore-1-ad-1, 36f8f4e8-2037-4b67-885b-d5cc9c7be60, ap-singapore-1, Backendset ocid1.loadbalancer.oc1.ap-singapore-1.aaaaaaa2joccsj447yrlkynbp4gpb6tup76skccoz3up637d6oynya [Copy](#)

75253141, TCP-15443, ocid1.loadbalancer.oc1.ap-singapore-1.aaaaaaa2joccsj447yrlkynbp4gpb6tup76skccoz3up637d6oynya, ap-singapore-1-ad-1, 36f8f4e8-2037-4b67-885b-d5cc9c7be60, ap-singapore-1, Backendset ocid1.loadbalancer.oc1.ap-singapore-1.aaaaaaa2joccsj447yrlkynbp4gpb6tup76skccoz3up637d6oynya [Copy](#)

75253141, TCP-15012, ocid1.loadbalancer.oc1.ap-singapore-1.aaaaaaa2joccsj447yrlkynbp4gpb6tup76skccoz3up637d6oynya, ap-singapore-1-ad-1, 36f8f4e8-2037-4b67-885b-d5cc9c7be60, ap-singapore-1, Backendset ocid1.loadbalancer.oc1.ap-singapore-1.aaaaaaa2joccsj447yrlkynbp4gpb6tup76skccoz3up637d6oynya [Copy](#)

75253141, ocid1.loadbalancer.oc1.ap-singapore-1.aaaaaaa2joccsj447yrlkynbp4gpb6tup76skccoz3up637d6oynya, ap-singapore-1-ad-1, 36f8f4e8-2037-4b67-885b-d5cc9c7be60, ap-singapore-1, Loadbalancer ocid1.loadbalancer.oc1.ap-singapore-1.aaaaaaa2joccsj447yrlkynbp4gpb6tup76skccoz3up637d6oynya [Copy](#)

647414eb, TCP-15012, ocid1.loadbalancer.oc1.ap-singapore-1.aaaaaaa2joccsj447yrlkynbp4gpb6tup76skccoz3up637d6oynya, ap-singapore-1-ad-1, 36f8f4e8-2037-4b67-885b-d5cc9c7be60, ap-singapore-1, Backendset ocid1.loadbalancer.oc1.ap-singapore-1.aaaaaaa2joccsj447yrlkynbp4gpb6tup76skccoz3up637d6oynya [Copy](#)

647414eb, TCP-15021, ocid1.loadbalancer.oc1.ap-singapore-1.aaaaaaa2joccsj447yrlkynbp4gpb6tup76skccoz3up637d6oynya, ap-singapore-1-ad-1, 36f8f4e8-2037-4b67-885b-d5cc9c7be60, ap-singapore-1, Backendset ocid1.loadbalancer.oc1.ap-singapore-1.aaaaaaa2joccsj447yrlkynbp4gpb6tup76skccoz3up637d6oynya [Copy](#)

647414eb, TCP-15017, ocid1.loadbalancer.oc1.ap-singapore-1.aaaaaaa2joccsj447yrlkynbp4gpb6tup76skccoz3up637d6oynya, ap-singapore-1-ad-1, 36f8f4e8-2037-4b67-885b-d5cc9c7be60, ap-singapore-1, Backendset ocid1.loadbalancer.oc1.ap-singapore-1.aaaaaaa2joccsj447yrlkynbp4gpb6tup76skccoz3up637d6oynya [Copy](#)

647414eb, TCP-15443, ocid1.loadbalancer.oc1.ap-singapore-1.aaaaaaa2joccsj447yrlkynbp4gpb6tup76skccoz3up637d6oynya, ap-singapore-1-ad-1, 36f8f4e8-2037-4b67-885b-d5cc9c7be60, ap-singapore-1, Backendset ocid1.loadbalancer.oc1.ap-singapore-1.aaaaaaa2joccsj447yrlkynbp4gpb6tup76skccoz3up637d6oynya [Copy](#)

75253141, TCP-15021, ocid1.loadbalancer.oc1.ap-singapore-1.aaaaaaa2joccsj447yrlkynbp4gpb6tup76skccoz3up637d6oynya, ap-singapore-1-ad-1, 36f8f4e8-2037-4b67-885b-d5cc9c7be60, ap-singapore-1, Backendset ocid1.loadbalancer.oc1.ap-singapore-1.aaaaaaa2joccsj447yrlkynbp4gpb6tup76skccoz3up637d6oynya [Copy](#)

647414eb, ocid1.loadbalancer.oc1.ap-singapore-1.aaaaaaa2joccsj447yrlkynbp4gpb6tup76skccoz3up637d6oynya, ap-singapore-1-ad-1, 36f8f4e8-2037-4b67-885b-d5cc9c7be60, ap-singapore-1, Loadbalancer ocid1.loadbalancer.oc1.ap-singapore-1.aaaaaaa2joccsj447yrlkynbp4gpb6tup76skccoz3up637d6oynya [Copy](#)

Here is the namespace

Query 1

BytesSent[1m]{resourceId="ocid1.loadbalancer.oc1.ap-singapore-1.aaaaaaa2joccsj447yrlkynbp4gpb6tup76skccoz3up637d6oynya"} mean()

Add Query

Query 1

Compartment

ChinaTech

sehubjapacprod (root)/ChinaTech

Metric namespace

oci\_lbaas

Resource group

No resource group

No resource groups for selected compartment and namespace

Metric name

BytesSent

Interval

1 minute

Statistic

Mean

Metric dimensions

Dimension name

resourceId




Dimension value

ocid1.loadbalancer.oc1.ap-singapore-1.aaaaaaa2joccsj447yrlkynbp4gpb6tup76skccoz3up637d6oynya

☐ Aggregate metric streams

+ Addition

## How to get compartmentId

ORACLE Cloud chinattech Singapore (Singapore)   

working

view

al cloud networks

Application Acceleration

Load balancers

ent Delivery Network

management



omer connectivity

anagement

ork Command Center

cope

artment

 You are using a fixed-shape (dynamic) load balancer. Oracle will retire the ability to create new dynamic shape load balancers on Thu, 11 May 2023 00:00:00 UT. Oracle recommends using the cost-efficient flexible  balancers.

## Load balancers in ChinaTech Compartment

Load balancers provide automated traffic distribution from one entry point to multiple servers reachable from your virtual cloud network (VCN). They improve resource utilization, facilitate scaling, and help ensure high availability.

Create load balancer

Name	Type	State	IP address	Sh
<a href="#">36fbf4e8-2037-4b67-885b-df5cc9c7be60</a>	Load balancer	● Active	138.2.87.224 (public)	10
<a href="#">6459df0c-70b3-4b00-a25f-e62fcf301f35</a>	Load balancer	● Active	129.150.49.220 (public)	10
<a href="#">33f1e1ec-ec34-4e8f-a7b5-a56c098cd716</a>	Load balancer	● Active	138.2.68.109 (public)	10
<a href="#">6c876f91-257a-4f5f-acc1-393e16b68d93</a>	Load balancer	● Active	168.138.184.212 (public)	10
<a href="#">c9a5901a-9694-4d24-bdd3-7131b5ff5db2</a>	Load balancer	● Active	158.178.237.157 (public)	10

Search the name in search bar

Compartment Information Tags

**Parent Compartment:** [sehubjapacprod \(root\)](#)

**OCID:** ...3kkj4q [Show](#) [Copy](#)

**Authorized:** Yes

**Created:** Fri, Aug 14, 2020, 06:57:20 UTC

After you get all these, fill them in the config.yaml

The binary will try to export those metrics to be pulled by Prometheus

## Oci\_exporter Metric type

I have designed 2 types.

Single: if this MQL can only get 1 datapoint for one resource

Many: will get us many data points for many resources

## Prometheus config

In order to let it discover metrics, we write config (prometheus.yaml) for it, **yellow** part is what we have added

```
global:
  scrape_interval:      15s # By default, scrape targets every 15 seconds.

  # Attach these labels to any time series or alerts when communicating with
```



```

# external systems (federation, remote storage, Alertmanager).
external_labels:
  monitor: 'codelab-monitor'

# A scrape configuration containing exactly one endpoint to scrape:
# Here it's Prometheus itself.
scrape_configs:
  # The job name is added as a label `job=<job_name>` to any timeseries scraped from
  this config.
  - job_name: 'prometheus'

    # Override the global default and scrape targets from this job every 5 seconds.
    scrape_interval: 5s

    static_configs:
      - targets: ['localhost:9090']
  - job_name: 'oci-custom-job'

    # Override the global default and scrape targets from this job every 5 seconds.
    scrape_interval: 60s

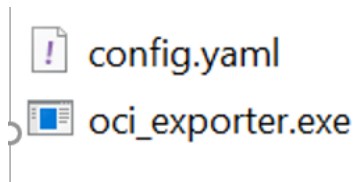
    static_configs:
      - targets: [ 'localhost:8081' ]
        labels:
          group: 'production2'

```

## Run OCI exporter

We need to run application against API key so we need to prepare key first.

In your application directory, we have a binary executable and config.yaml file.



Oci\_exporter.exe will listen on port 8080

When we access [127.1.1.1:8080/metrics](http://127.1.1.1:8080/metrics)

We can get metrics defined in config.yaml

We can add parameter to run on other port

oci\_exporter.exe -listen-address=:8081

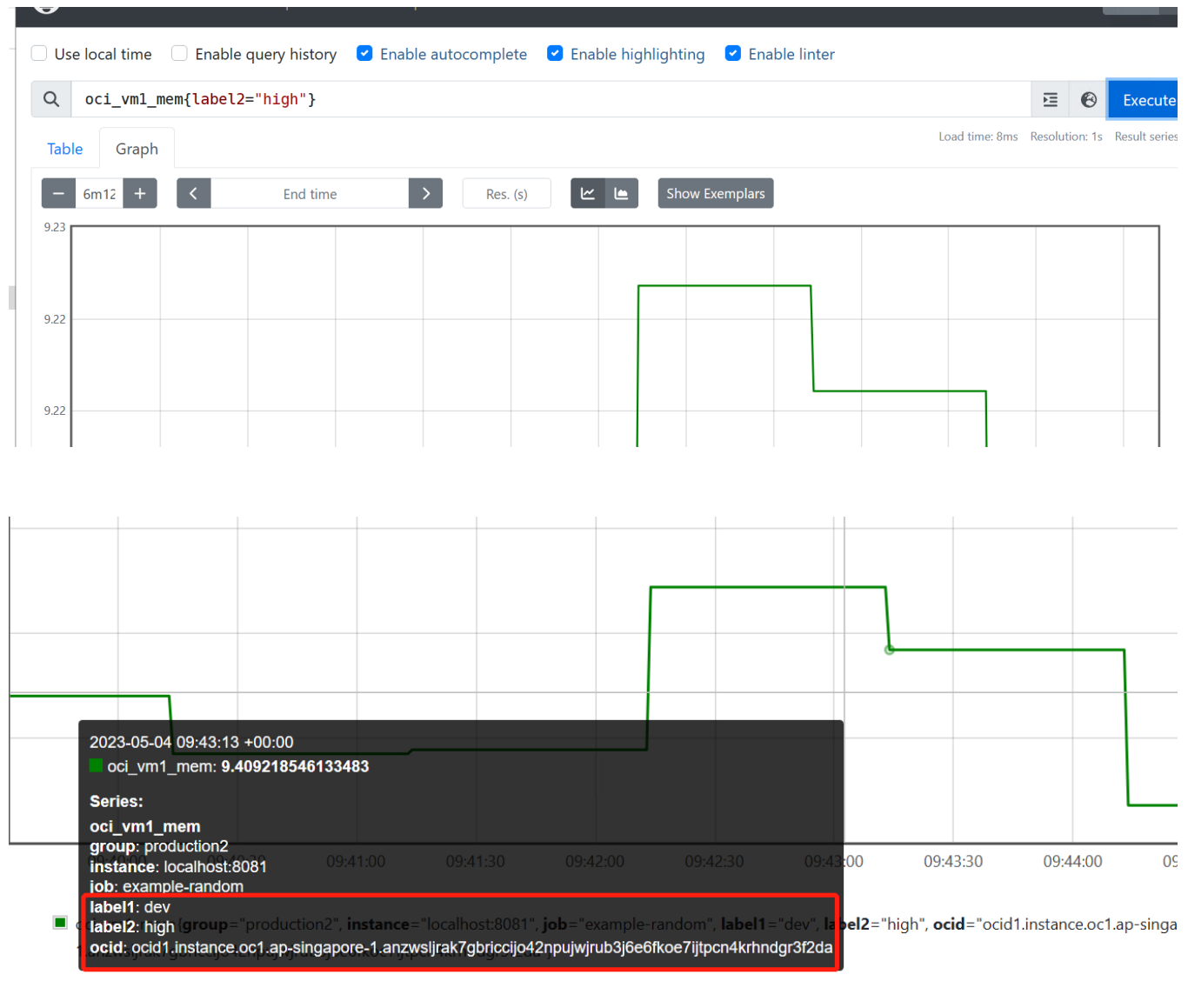
will listen on 8081

if `oci_exporter.exe -listen-address=0.0.0.0:8081`

will bind all ips of local to listen on 8081

when we run Prometheus, we open dashboard

type the metric name and filter with the label



When we type promQL we get auto completions

Q

oci\_all\_lb\_bytesent{ocid=""}

Table

Graph

30m

+

-

End

Empty query result

ociid1.loadbalancer.oc1.ap-singapore-1.aaaaaaaabadoizbtc2i2xuwtduatihganl6n5hl7ubjdgokin67ilv5mn

ociid1.loadbalancer.oc1.ap-singapore-1.aaaaaaaabpq6ui2qem3xuybxc4ir475l7ohbmnpptiyvsft7zjyq3dasl

ociid1.loadbalancer.oc1.ap-singapore-1.aaaaaaaacg5aa5dkzaxvjb237y6323p62dzrkyjt6so54eln4vl7s7zt4l

ociid1.loadbalancer.oc1.ap-singapore-1.aaaaaaaadt2ometxbkx5rb64apppvrmitt244lkof3xzmrorzo3uzno5o

ociid1.loadbalancer.oc1.ap-singapore-1.aaaaaaaai2jzocsji4t47yrlkyibpdgnb6tzb76skccoz3urp637xl6oy

ociid1.loadbalancer.oc1.ap-singapore-1.aaaaaaaai7li5dmohggjj6ufnww6jl32glq7idze16kwclo3kjl2qi37g

ociid1.loadbalancer.oc1.ap-singapore-1.aaaaaaaauho3rb7ic4iiql6cucs2twuqn7xqowqfgez4o5fiv3b3w2vwo

ociid1.loadbalancer.oc1.ap-singapore-1.aaaaaaaav23rcwnmncvhok3yo6xtrmb3pk7d2qndrf14bvuisq7vpfgre

ociid1.loadbalancer.oc1.ap-singapore-1.aaaaaaaavliwgc5j7rhk2mzgjk6t7qktsurda6u7u7mzp6hgftczm5il

ociid1.loadbalancer.oc1.ap-singapore-1.aaaaaaaavot2bimjwka6cgfb3kk2sojkoegbzp62m6nlw2bytdsjtzi3

Add Panel

2023-05-05 03:48:02 +00:00

oci\_all\_lb\_bytesent: 95788

Series:

- oci\_all\_lb\_bytesent
- group: production2
- instance: localhost:8081
- job: oci-custom-job
- label1: dev
- label2: high
- ocid: ocid1.loadbalancer.oc1.ap-singapore-1.aaaaaaaavot2bimjwka6cgfb3kk2sojkoegbzp62m6nlw2bytdsjtzi3

11 OCI Exports metrics to Prometheus Solution / Version 1.0

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ORACLE

- oci\_all\_lb\_bytesent{group="production2", instance="localhost:8081", job="€  
1.aaaaaaaabadoizbtc2i2xuwtduatihganl6n5hl7ubjdgokin67ilv5mniya"}
- oci\_all\_lb\_bytesent{group="production2", instance="localhost:8081", job="€  
1.aaaaaaaabpq6ui2qem3xuybxc4ir475l7ohbmnppityvsft7zjyq3dasluja"}
- oci\_all\_lb\_bytesent{group="production2", instance="localhost:8081", job="€  
1.aaaaaaaacg5aa5dkzaxvjb237y6323p62dZRkyjt6so54eln4vl7s7zt4bea"}
- oci\_all\_lb\_bytesent{group="production2", instance="localhost:8081", job="€  
1.aaaaaaaadt2ometxbkx5rb64apppvrmitt244lkof3xzmrrorzo3uzno5dma"}
- oci\_all\_lb\_bytesent{group="production2", instance="localhost:8081", job="€  
1.aaaaaaaai2jzocsji4t47yrlkyibpdgnb6tZp76skccoz3urp637xl6oynya"}
- oci\_all\_lb\_bytesent{group="production2", instance="localhost:8081", job="€  
1.aaaaaaaai7li5dmohggjj6ufnww6jl32glq7idzel6kwclo3kjl2qi37gmaq"}
- oci\_all\_lb\_bytesent{group="production2", instance="localhost:8081", job="€  
1.aaaaaaaauho3rb7ic4iiql6cucs2twuqn7xqowqfgez4o5fiv3b3w2vwotla"}
- oci\_all\_lb\_bytesent{group="production2", instance="localhost:8081", job="€  
1.aaaaaaaav23rcwnmncvhok3yo6xtrmb3pk7d2qndrfl4bvuisq7vpfgrecgq"}
- oci\_all\_lb\_bytesent{group="production2", instance="localhost:8081", job="€  
1.aaaaaaaavliwgc5j7rhk2mzgjk6t7qktmsurda6u7u7mgp6hgftczm5ilrta"}
- oci\_all\_lb\_bytesent{group="production2", instance="localhost:8081", job="€  
1.aaaaaaaavot2bimjwka6cgfb3kk2sojkoegbZp62m6nlw2bytdsjtzi3saq"}
- oci\_all\_lb\_bytesent{group="production2", instance="localhost:8081", job="€  
1.aaaaaaaabadoizbtc2i2xuwtduatihganl6n5hl7ubjdgokin67ilv5mniya"}